

**“A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING THE  
EFFECT OF YOGA IN REDUCING THE RISK OF CARDIAC DISEASES AMONG  
ADULTS IN SELECTED URBAN AREAS OF TUMKUR WITH A VIEW TO  
DEVELOP AN INFORMATION GUIDESHEET”**

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**ABSTRACT**

*Cardiac diseases are the most prevalent health problem among adults in the modern society. In India, cardiovascular diseases comprise the first and second leading cause responsible for one-third of all deaths. Risk factors for cardiovascular diseases are the sedentary life style, obesity, lack of exercises, etc are mainly seen in urban population. Yoga got its popularity and appreciation from worldwide for its benefits in ailments as well rejuvenating the body. The emerging research is revealing the positive effects of yoga on stress reduction, anxiety, management of hypertension and to reduce the risk of cardiac diseases and meant for a healthy heart, by a healthy life style. The present study reveals that the level of knowledge of urban adults regarding the effect of yoga in reducing the risk of cardiac diseases are not adequate and there is significant association between level of knowledge and demographic variables.*

**KEYWORDS:** *Cardiac, Cardiovascular, Yoga, Sedentary Life Style, Obesity & Lack of Exercises*

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**INTRODUCTION**

The number of death toll increases day by day with cardiac. Hypertension is a major culprit in increasing the incidence of heart failure with 75% of all cases heart failure with an antecedent diagnosis of hypertension. The risk of heart failure persistently increases for people with blood pressure greater than 160/90mm of Hg. A study carried out in Minnesota revealed that the incidence of heart failure increased over the period of past two decades and also formed that survival rate after the onset has decreased among vulnerable age group of women and elderly person whereas survival rate improved among other age group.

The quality of life among the heart failure patient is significantly diminished by the result of multiple symptoms which includes dyspnoea, pain, exercise intolerance, fatigue and clinical depression. These symptoms resist functional capacities in the patient. Mortality and morbidity rate of heart failure exact regardless of increased treatment modalities and medication. Studies shows that the intervention which aimed to treat chronic heart failure have significant role in improving the quality of life and turn up overall

Health related outcome. Age is a non modifiable risk factor of heart failure. It increases the incidence rate by double in every 10 years of life according to Duke University, the burden over the medicare system increases as the people living with heart failure increase.

Yoga is becoming popular due to its magical benefits. People practices yoga with various mind. The scope of yoga has been extending increasing fitness and flexibility of body to being solution for the various

health disorders. Yoga help in foster all round development of calm, stress free mind and fit body. Yoga is a complex system involved physical and mental disciplines organised to achieve physical and mental health yoga comprised of triad exercise, breathing exercise known as pranayama, physical posture known as asanas and medication. Hatha yoga is a generic term for the practice of yoga aimed to enhance the physical health the recent researchers legitimizing the positive effects of yoga on stress reduction, anxiety, depression, balancing strength, flexibility of body and management of various medical disorders includes hypertension

## NEED FOR STUDY

***“Yoga is the Fountain of Youth. You're only as Young as your Spine is Flexible.” Bob Harper***

National health and nutritional examination survey shows that 33.5% of U.S adult have hypertension. The prevalence is equal between male and female among all the nations in the world African American have highest rate of hypertension at 44%. Among that 80% are aware about their condition and 71% people are using antihypertensive medication.

According to the mortality report of India, 27% of annual death of India is resulted from cardiovascular disease. High mortality rate was reported in Goa, Punjab, Tamil Nadu, Andhra Pradesh. Life style data obtained by national family health survey revealed that cardiovascular mortality rate were correlated with literacy rate, smoking, adult mean body mass index, obesity, high consumption of calories.

Life style modification helps in reduction of heart disease. Low fat, high fiber, an hour of yoga a long walk limits heart disease by 12%. Yoga lowers angina, chest pain and enhance pumping of pure blood into the aorta by 30% exercise helps reduce bad cholesterol and production of stress hormone. Yoga aids in reduce risk of health problem.

## OBJECTIVES OF THE STUDY

- To assess the level of knowledge regarding the effect of yoga in reducing the risk of cardiac diseases among adults at selected urban areas of Tumkur.
- To find out the association between knowledge of yoga in reducing the risk of cardiac disease with the demographic variables.
- To develop and distribute informational guide sheet on effect of yoga in reducing risk of cardiac disease among adults.

## RESEARCH HYPOTHESES

**H<sub>1</sub>:** There will be a significant association between knowledge levels regarding the effect of yoga in reducing risk of cardiac disease with the selected demographic variables of the adults.

## OPERATIONAL DEFINITIONS

- **Assessment:** In this study assessment refers to an organized systemic process of collecting information about knowledge of adults regarding effect of yoga in reducing cardiac diseases by administering a structured knowledge questionnaire

- **Knowledge:** In this study knowledge refers to the cognitive ability to interpret the information regarding the effect of yoga in reducing cardiac diseases among adults.
- **Yoga:** In this study yoga refer to any method by which such awareness and tranquility are attained by exercises and postures designed to promote physical, mental and spiritual wellbeing. Which help in maintaining the cardiac health.
- **Cardiac Diseases:** In this study cardiac disease refers to those diseases which are occurring due to the inability of heart to function normally include atherosclerosis myocardial infarction and coronary artery disease.
- **Adults:** In this study adult refers to the people with age from 20 to 50 residing at selected urban areas of tumkur.
- **Urban Area:** In this study urban area refers to the adults who Are residing In City Or Town which is governed by corporation or municipality, urban people are prone to undergone day to day stress and sedentary life style.

#### **ASSUMPTIONS**

- The adults of selected urban area may have a moderate knowledge regarding the special yoga types which is suitable for the cardiac diseases prevention.
- Yoga helps to reduce the risk of cardiac diseases.

#### **Delimitations of the Study**

The study is delimited to adults who are residing in selected urban areas of Tumkur.

#### **REVIEW OF LITERATURE**

A review of literature relevant to the study was undertaken which help the investigator to develop deeper insight into the problem, and gain information on what has been done in the past.

Reviews are divided as following sub headings:

- Reviews Related to Studies on Cardiac Diseases among Adults
- Reviews Related to Studies on Effect of Yoga on Cardiac Diseases

#### **Reviews Related to Studies on Cardiac Diseases among Adults**

A study was conducted in jaipur. The objective of the study was to determine prevalence and age- specific trends in cardiovascular risk factors among adolescent and young urban Asian Indians. The samples of the study were young adolescent in age group 15-39. The sampling method was convenient sampling and the study concludes that low prevalence of multiple cardiovascular risk factor like smoking, hypertension, diabetes and metabolic syndrome in dolocent. The study also revealed that the risk factor increases by 30-39 years in adolescents and rapid escalation of these risk factors by age of 30-39 years is noted in urban asian Indians

A cohort study was conducted in Brazil with the objective to evaluate the frequency of reversible vasoconstriction in young ischemic stroke patient. The samples were 159 young patients with acute ischemic stroke patient. Data collection was done by toxicological screening and imaging screening. The data was collected over a period of 2005-2010 and the result shown that majority of anterior stenosis occur in cerebellar arteries and in 29%had reversible anterior stenosis.

The study concluded that use of cannabis, nasal decongestant are precipitating causes for ischemic stroke

An epidemiological study on coronary heart disease was conducted in Delhi. The objective of the study was to find out the prevalence and risk factors of coronary heart disease. 13723 samples in the age group of 25-64 were selected randomly. the data was collected using electrocardiogram. The study result shows that overall prevalence rate of asymptomatic coronary heart disease was 6.7% and among that majority were females. the study also revealed that the risk factor for coronary heart disease was hypertension and family history for both the gender, obesity among females whereas smoking in males.

### **Reviews Related to Studies on Effect of Yoga on Cardiac Diseases**

A study was conducted in a tertiary care hospital in Delhi to assess the effectiveness of yoga based life style intervention in reducing anxiety and improving well being and the personality. The samples of 90 patients with chronic disease were selected using convenient sampling and the samples were grouped into experimental and control group. State and trait anxiety, subjective well- being, personality trait were measured using Spielberger, subjective well being inventory roll and personality trait inventory tool respectively. Yoga based life style intervention which includes asana, pranayama was given to the experimental group along with lecture and group discussion. Post intervention test was done with same tools. The study concluded that the yoga based intervention was effective in reducing stress and improving well being and personality trait.

A study was conducted in Lucknow to evaluate the effect of regular exercise practice in reducing body fat and lipid profile among patient with coronary artery disease. The total samples of 170 samples were randomly grouped into yoga group and control group of 85 samples each. lipid profile and body fat estimation was done in both the groups. Yoga intervention which is consists of 35- 40 minute per day was administered to yoga group for a period of 5 days in a week and followed for 6 month. The post test was done to calculate the same parameter. The result revealed that the low density lipoprotein, triglyceride, total cholesterol, and body fat reduce after the regular yoga practice. The study concluded that regular yoga practice is effective for cardiac patients.

A study was conducted in USA to evaluate the effect of yoga therapy on quality of life, cardiovascular endurance, inflammatory markers on stable heart failure patient. 40 samples were randomly selected and grouped into yoga and control group of 21 and 19 groups respectively. Data collection was carried out using Minnesota living with heart failure questionnaire which measure quality of life, thread mill stress test to measure flexibility, peak exertion, interleukin and c reactive protein. Yoga therapy was administered to the yoga group. Post test was done using the same tool s and the results shown the statistical significance of yoga. The study concluded that the yoga therapy have benefit in improving cardiovascular endurance, quality of life, flexibility and inflammatory markers.

An observational study was conducted in Newyork to assess the hatha yoga practice in various posture in satisfying physical activity require to improve and maintain health and cardiovascular fitness. The study was carried out in 20 advanced level yoga practionner who were selected by convenient sampling technique. The intervention consists of 30 minute sitting, 56 minute of hatha yoga and 10 minute of thread mill walking. Metabolic equivalent, energy expenditure, oxygen consumption, heart rate were measured after the different postures. The result revealed that metabolic cost of yoga represent low level of physical activity and the walking, thread mill walking does not meet the level of physical activity for maintaining health and cardiovascular fitness. And the yoga practice in sun saturation posture meet the level of physical

A study was conducted in Pondicherry with an objective to determine the immediate effect of left nostril breathing (Chandra nadi pranayama) on cardiovascular parameter in patient with essential hypertension. 22 samples were selected in accidental sampling, pre intervention heart rate, blood pressure was measured after 5 minutes of rest in sitting position. Non invasive semi automatic blood pressure monitor was used. 27 Chandra nadi pranayama was administered to the sample over the duration of 5 minutes. Post intervention measurement was done on same parameter. The result shown the immediate decrease in the cardiovascular parameter. The study concluded that the Chandra nadi pranayama has effective in reducing heart rate, and systolic pressure in hypertension patient on regular standard medical management

## RESEARCH METHODOLOGY

Research methods are the techniques/methods researchers use in performing research operations.

This chapter presents the methodology adopted for study and different steps which were undertaken for gathering and organizing data for investigation. It includes the research approach, research design, setting, variables, population, sample and sampling technique, development and description of the tool, validity and reliability of tool, pilot study, procedure for data collection and the plan for data analysis.

### Research Approach

The research approach is the most essential part of any research. The appropriate choice of the research approach depends on the purpose of the research study that is undertaken. The researcher found that descriptive approach is best suited and adopted for the present study. **Descriptive survey approach** was used to assess the knowledge of urban adults regarding the effect of yoga in reducing the risk of cardiac diseases.

### Research Design

For the present study **Non-Experimental, Descriptive survey design** was selected.

## VARIABLES

Variables are an attribute of a person or objects that varies or takes different values

**Dependent Variable:** Knowledge level of the adults regarding the effect of yoga in reducing the risk of cardiac diseases.

**Demographic Variables:** Age, gender, religion, education, marital status, food habits, types of family, occupation, source of information on yoga, history of cardiac disease.etc.

## SETTING OF THE STUDY

“It’s based on the investigator’s familiarity with the settings and availability of the samples. The present study was conducted at selected urban areas of Tumkur.

## POPULATION

In the present study population includes the adults residing in selected urban areas in Tumkur.

## **SAMPLE**

Small portion of a population for observation and analysis is referred to as a sample. In this study, the sample size consists of 100 adults from selected urban areas of Tumkur, who satisfied the inclusion criteria.

## **SAMPLING TECHNIQUE**

Sampling refers to the process of selecting a portion of population to represent the entire population. In the present study non-probability convenient sampling technique was adopted to select the sample.

## **SAMPLING CRITERIA**

Sampling criteria listed the characteristics essential for membership in the target population. The samples were selected from the population that met the sampling criteria.

The following criteria are set to select samples.

### **Inclusion Criteria**

- Adults who are available during the period of study.
- Both male and female adults are included in the study.
- Adults residing in the selected urban areas at tumkur those age group 20-50

### **Exclusion Criteria**

- Adults who are not willing to participate in the study.
- Adults who are aged below 20 and more than 50yrs.
- Adults those who were attended any yoga classes.

### **Data Collection Instruments**

The instruments selected in research should be as far as possible the vehicles that would best obtain data for drawing conclusions, which are pertinent for the study.<sup>51</sup>

The present study aimed at assessing the knowledge of adults regarding the effect of yoga in reducing the risk of cardiac disease. Thus a structured questionnaire was used to assess the knowledge of adults in the urban area regarding the effect of yoga in reducing the risk of cardiac disease.

### **Development of Tool**

A structured interview schedule was used to assess knowledge of of urban adults regarding the effect of yoga in reducing the risk of cardiac disease.

The tools were prepared on the basis of the objectives of the study. The following steps were adapted in the development of the instruments:

- Review of literature provided adequate content for the tool preparation.
- Researcher's personal experience, consultation with experts and discussion with peer groups.

- Prior to structuring the questionnaire the investigator visited urban areas and collected relevant data necessary to construct the items for the knowledge questionnaire.
- Development of blue print.
- Construction of demographic Performa, structured questionnaire to assess the knowledge of the adults.
- Content validity.
- Reliability of the tool.

### **Description of the Tool**

Structured questionnaire to assess knowledge of adults in the urban area regarding the effect of yoga in reducing the risk of cardiac disease.

The structured questionnaire consists of 2 sections

#### **Section- I**

This section seeks information on demographic data consisting of 10 items such as age, gender, religion, marital status, types of family, education qualification, occupation, food habits, marital status and source of information.

#### **Section - II**

This will be divided as following sections.

- **Section- A** –knowledge questionnaires regarding general information about yoga
- **Section- B**- knowledge questionnaires regarding. cardiovascular system
- **Section - C**- knowledge questionnaires regarding effect of yoga on cardiac disease

There are total 40 Multiple Choice Questions in section II, Item number 1-15 on general information about yoga, 16-25on cardiovascular system, 26-40 on effect of yoga on cardiac disease.

### **Scoring**

The 40 questions in section-II are of Multiple-choice questions and for the correct option the score is 1 and other options 0. The score ranges from a minimum of 0 to a maximum of 40.

The level of Knowledge of samples

- Inadequate knowledge 0-50%
- Moderate knowledge 51-75%
- Adequate knowledge 76-100%

### **Description of the Blue Print**

A blue print for the structured knowledge questionnaire regarding the effect of yoga in reducing the risk of cardiac diseases. This consists of items pertaining to the three domains of learning i.e. knowledge, comprehension and application. There were 15(37.5%) items on knowledge domain, 10 (25%) items on comprehension domain and 15 (37.5%) items on

application domain.

### **Development of Information Guide Sheet**

The following steps were adopted to develop it, they were

- Development of the content
- Establishment of content validity

The areas covered were:

- Circulatory system.
- General information about yoga
- Effect of yoga on heart/cardiac diseases.

### **CONTENT VALIDITY**

For this study, structured interview questionnaires were developed and given to 9 experts-6 experts from department of Medical and Surgical Nursing, from the field of nursing and 1 Physician, 1 yoga master, 1 statistician in order to obtain validity. Based on their suggestions and recommendations the tool was modified (i.e. concised the questions and simplified some of the terms) and final drafts of the tools are developed.

### **RELIABILITY**

For this study, reliability was analyzed using Split Half Method and the reliability coefficient was calculated using **Spearman Brown Prophecy formula**. The reliability co- efficient of the tool was found to be 0.98. Hence the tool was found to be **valid, reliable, and feasible**.

### **PILOT STUDY**

Pilot study is a trial scan of the methodology planned for the major project.

The pilot study was conducted in the selected urban areas of Tumkur from **1-11-2012 to 4-11-2012** the purpose was to assess the feasibility of the study. After obtaining formal Permission from the municipal councillor, the tool was administered to 10 adults. Samples were selected by using convenient sampling and they are reassured that whatever information they give will be kept confidential, the time taken to complete each tool was nearly 35-45 minutes per sample. The pilot study subjects were not included in the final study.

Pilot study analysis revealed that the urban adults possess inadequate level of knowledge on yoga in reducing the risk of cardiac diseases.

The research tools were found to be feasible and practicable. Hence no change made after the pilot study. The investigator then proceeded for the final study.

### **METHODS OF DATA COLLECTION**

The formal Permission was obtained from the municipal office. The data was collected from 10<sup>th</sup> November to 8<sup>th</sup> December 2012. In the beginning a rapport was established with the adults and the purpose of the study was explained to



them. The investigator reassured the subjects that whatever information they give will be kept confidential and this information used only for the study purpose. The written consent was obtained from the subjects. The totals of 100 subjects were selected for the study. The data were collected by using structured questionnaires in English and Kannada.

## **PLAN FOR DATA ANALYSIS**

Data will be entered to Master Data sheets. Descriptive and inferential statistics will be used for analysis of data and the significant findings will be presented in the form of tables, figures and graphs.

### **Descriptive Statistics**

- Frequency and percentage will be used to describe the distribution of urban adults according to their demographic characteristics.
- Mean, Mean score percentage and Standard Deviation will be used for assessing the level of knowledge.

### **Inferential Statistics**

- Chi – square test will be used to determine the association of demographic variables with level of knowledge.

## **ETHICAL CONSIDERATION**

The dissertation committee prior to the pilot study approved the research proposal. Permission was obtained from the municipal office. The purpose and other details of the study were explained to the study participants and their consent was obtained. Assurance was given to the study participants on the anonymity and confidentiality of the data collected from them.

## **SUMMARY**

This chapter dealt the description of research approach, research design, schematic representation of the research design, setting, variables, population, sample and sampling technique, criteria for selection of sample, development and description of the tool, validity and reliability of tool, pilot study, procedure for data collection, plan for data analysis and ethical consideration.

## **RESULTS**

### **Section1**

#### **Describes the Demographic Variables of Adults in the Urban Area**

100 samples were taken from selected urban area in that 63(63%) were male samples and 37(37%) samples were female. Out of 100 subjects 20% (20) were in the age of 20-30years. 45(45%) in the age of 31-40 years, 35(35%) are in the age group of 41-50. Majority of the study samples were Hindus 60(60%), 11(11%) were Christian, 29(29%) were Muslims. Majority of the samples are married about 83(83%) and single about 17(17%) Majority of samples are PUC 35 (35%) were graduate about 20(20%) were post graduates about 20(20%).and primary education about 25(25%) and there is none are illiterate. Most of the subjects 65(65%) belongs to nuclear family, 35(35%) belongs to joint family, from the 100 samples according to food habits vegetarian 40(40%) and 60 (60%) are non vegetarians. 15(15%) of the samples had a past history of cardiac diseases and 85(85%) had no pat history of cardiac diseases. From the 100 samples according to their occupation 25(25%) are working in government sector, 35(35%) are from private sector and business man about 20(20%)

and others are about 20(20%). From the above sample getting source of information about yoga from mass media 20 (20%), were from family and friends 50(50%), and from electronic media 10(10%), rest of them about 20(20%) getting from yoga books.

## Section 2

### **The First Objective was to Assess the Level of Knowledge Regarding the Effect of Yoga in Reducing the Risk of Cardiac Diseases among Adults**

The finding of the study depicts that, out of 100 urban adults 30(30%) were having inadequate knowledge, 55(55%) were having moderate knowledge and 15(15%) had adequate knowledge.

The test findings of the study revealed that the overall knowledge score on the test was (mean) 21.2, the mean score percentage was 54.1 % and standard deviation 2.73%. This shows that the knowledge of urban adults regarding effect of yoga in reducing the risk of cardiac diseases was moderate.

## Section 3

### **To find the association between the knowledge of yoga in reducing the risk of cardiac disease and selected demographic variables**

Variables such as age, education, history of cardiac diseases, source of information about yoga, has significant association with knowledge among urban adults. Variables like gender, marital status, religion, food habits and type of family had no association with knowledge level.

The chi-square test was used to find the association between stress and selected demographic variables and it was found significant at 0.05 level of significance. Hence the hypothesis was proved, which states that there is a significant association between the knowledge of yoga in reducing the risk of cardiac disease and selected demographic variables.

## Section 4

### **To develop and distribute informational guide sheet on effect of yoga in reducing risk of cardiac disease among adults**

After the collection of data using structured questionnaires the investigator distributed the information guide sheet which are intended to get knowledge about yoga in reducing the risk of cardiac diseases for adults.

## **INTERPRETATION AND CONCLUSIONS**

The study findings showed that there was moderate knowledge regarding effect of yoga in reducing the risk of cardiac diseases among adults and there are some demographic variables associated with level of knowledge regarding effect of yoga in reducing the risk of cardiac diseases among adults.

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